

The Water Affordability Squeeze in an Era of Increasing Costs

WATER MANAGEMENT PROGRAM

ACWA 2026 SPRING CONFERENCE

MAY 7, 2026

AGENDA

Introduction

Setting the stage

Affordability study

Statewide LIRA need

Drivers for water affordability

Discussion

Q&A

INTRODUCTIONS

Dr Medhi Nemati– UC Riverside

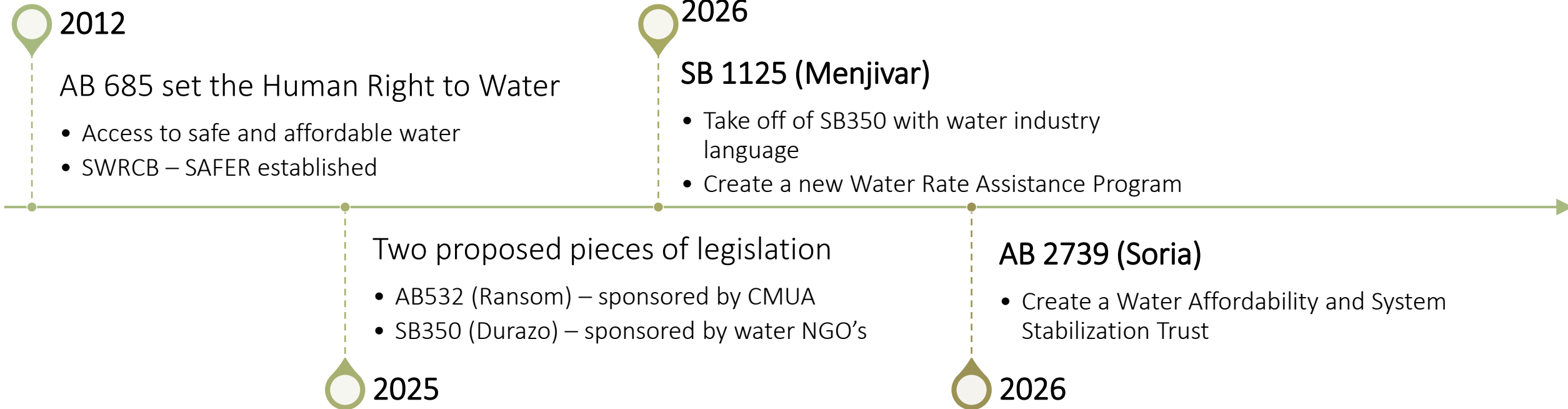
Andrea Abergel – CMUA Director of Water

Sean Maguire – SWRCB Board Member

Michael Claiborne – Leadership Council for Justice and Accountability

Greg Thomas – Elsinore Valley MWD

Setting the Stage



Setting the Stage (cont)

Challenge: Balancing escalating operational and regulatory costs with the need to keep water affordable

- Legal framework – Prop 218/26
- Cost drivers – electricity, chemicals, labor, construction, regulations, legislation, climate change/supplies, inflation
 - Compounding vulnerabilities
- Competing household demands/bills
 - E.G.: Gas prices increased \$1-2 in 3 weeks!!!

Setting the Stage (cont)

Today:

Academic perspective/information

Policy proposals/case studies

Studies/water affordability challenge

Question: Reliability vs Affordability

Value of Water

Do we change the narrative?

The Water Affordability Squeeze

A Full-Circle View of Burden, Assistance, and Payment Outcomes

ACWA Spring Conference 2026 | Water Management Program Panel

Mehdi Nemati | UC Riverside School of Public Policy

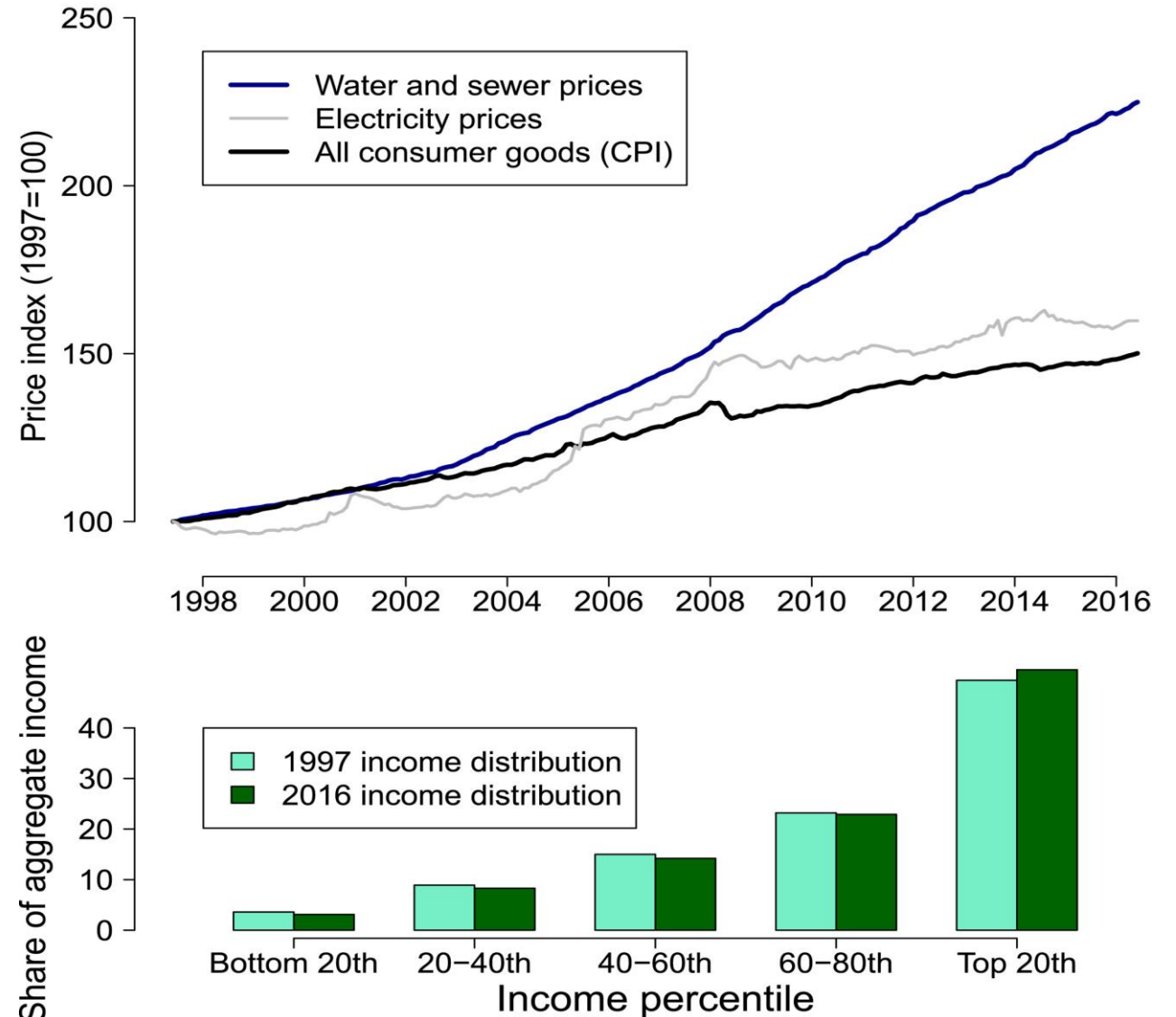
Sacramento | Thursday, May 7, 2026

From rising costs and affordability metrics to assistance effectiveness and payment outcomes.

Water Affordability Challenges: Nationally

About 17% of households spend more than 4.5% of their income on water and sewer services

Among roughly 800 utilities surveyed by the EPA, only about 20% offer bill discounts through low-income rate assistance programs



Takeaway: Rising water and sewer costs, along with uneven income growth, increase affordability pressures on lower-income households.

Water Affordability Challenges: California

Water prices have continued to rise
Real incomes have largely
stagnated since 2020

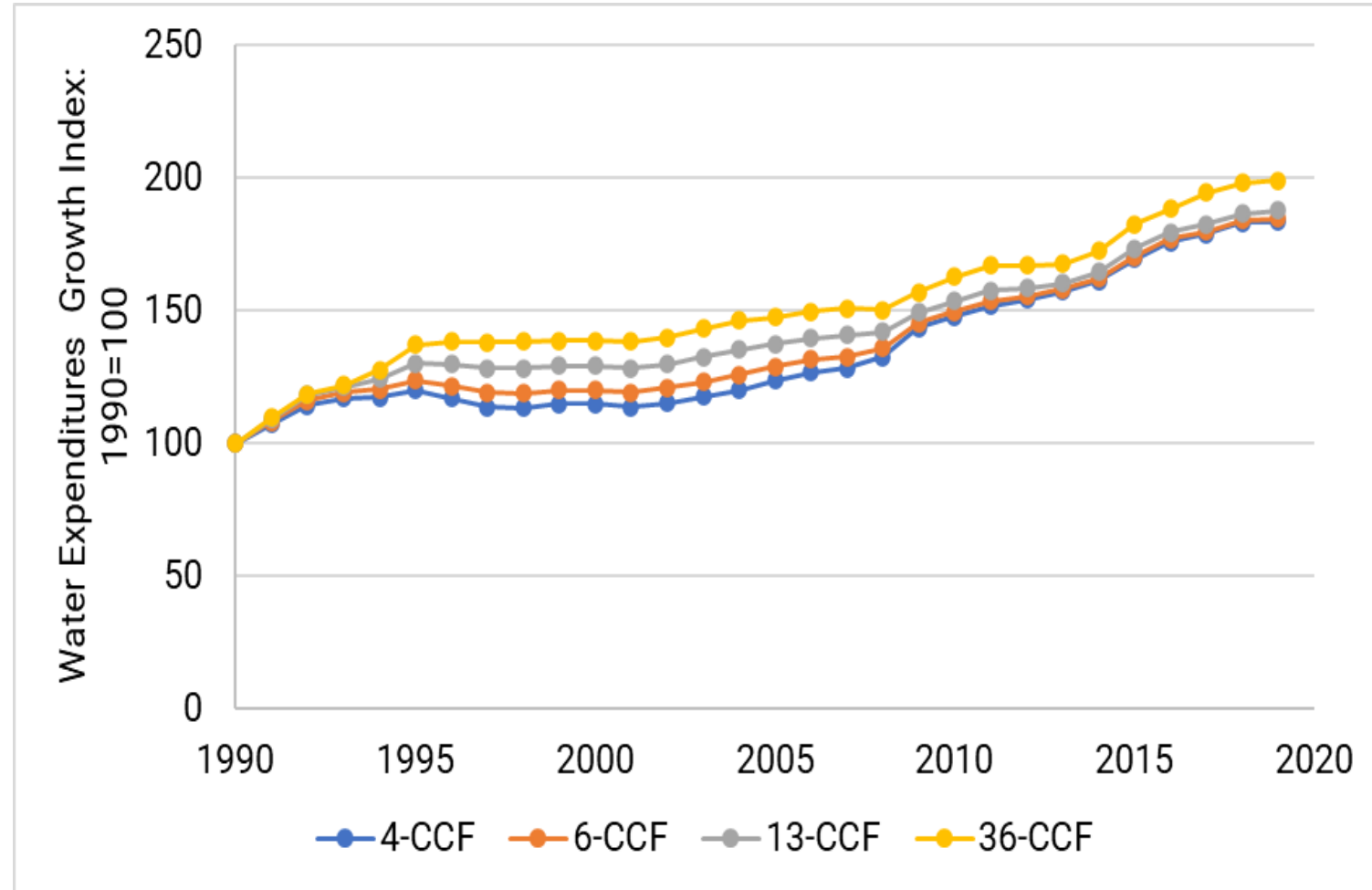
*Discretionary income is under
increasing pressure*

PPIC (2025):

About 17% of Californians live in
poverty (about 6.4 million people)

About 35% are poor or near-poor
(about 13.2 million people)

SWRCB (2022): About 21% of
water systems, serving roughly
18% of residents, have water rates
that are unaffordable for basic
needs



Cost of Delivering High-Quality, Reliable Water Will Likely Increase



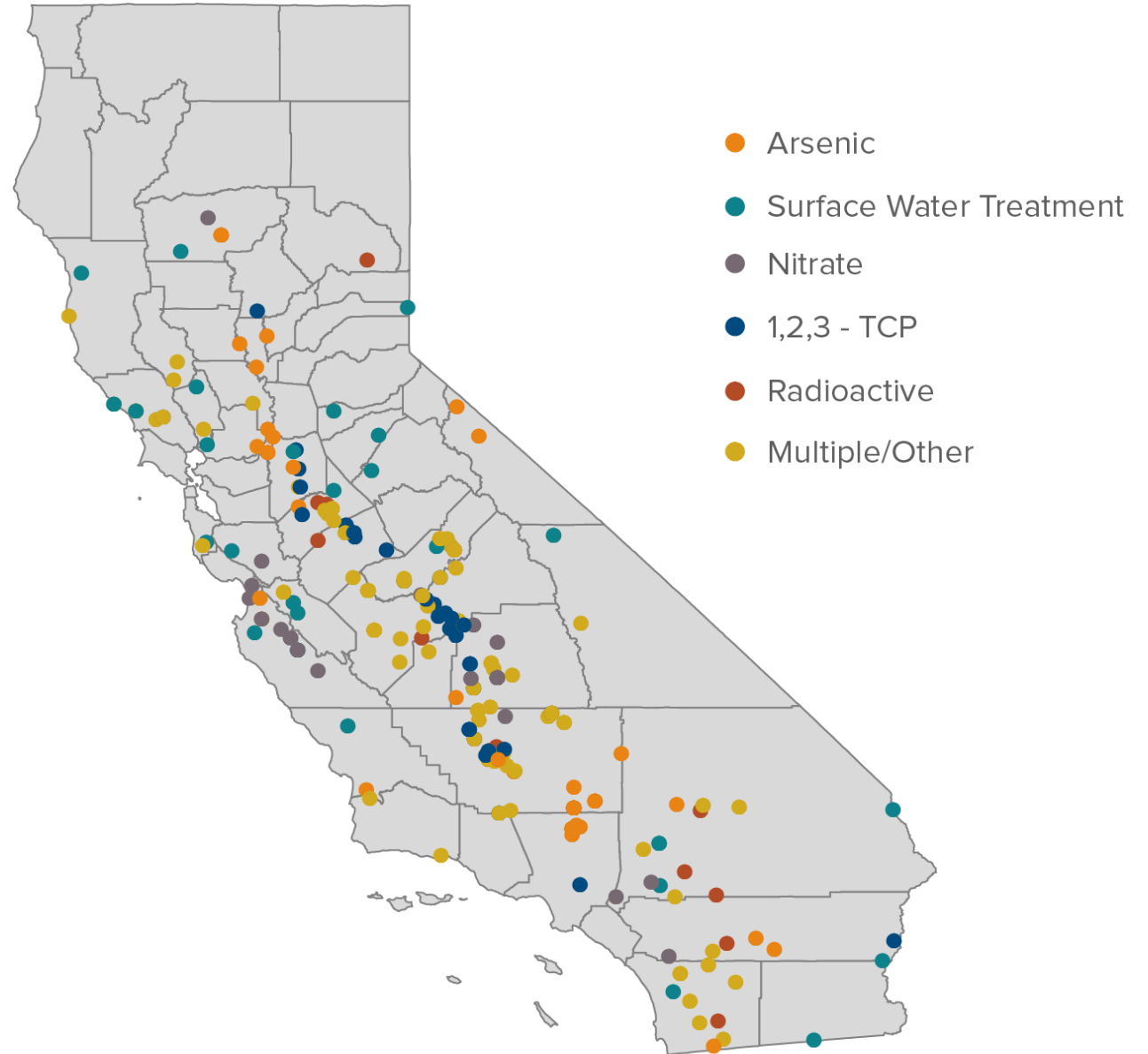
Climate-induced
extremes



Water quality
challenges



Aging
infrastructure



Water Affordability Across MWD Retail Agencies

Scale: agency-level analysis

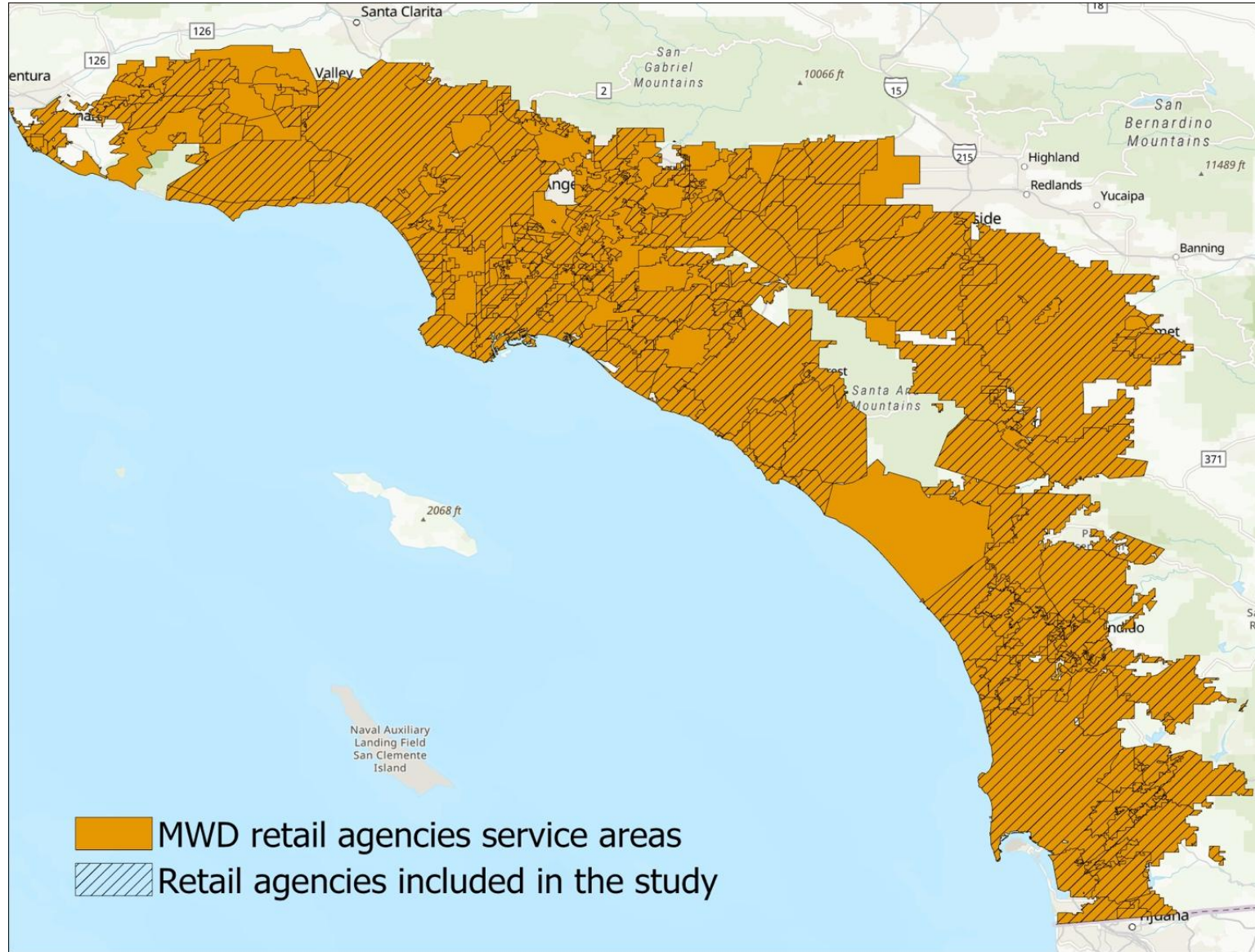
125 out of ~221 retail water agencies served by MWD

~ 5.2 million households (~87% of total served)

Time Period: 2013-2024

Definition: “Water Expenditure Ratio” (WER) vs Water Affordability

Water service: 6 CCFs per “household” (~55 gpcd per hh)



Trends in Average Water Expenditures for Residential Customers

Inflation outpaced water expenditures (34% vs 21%)

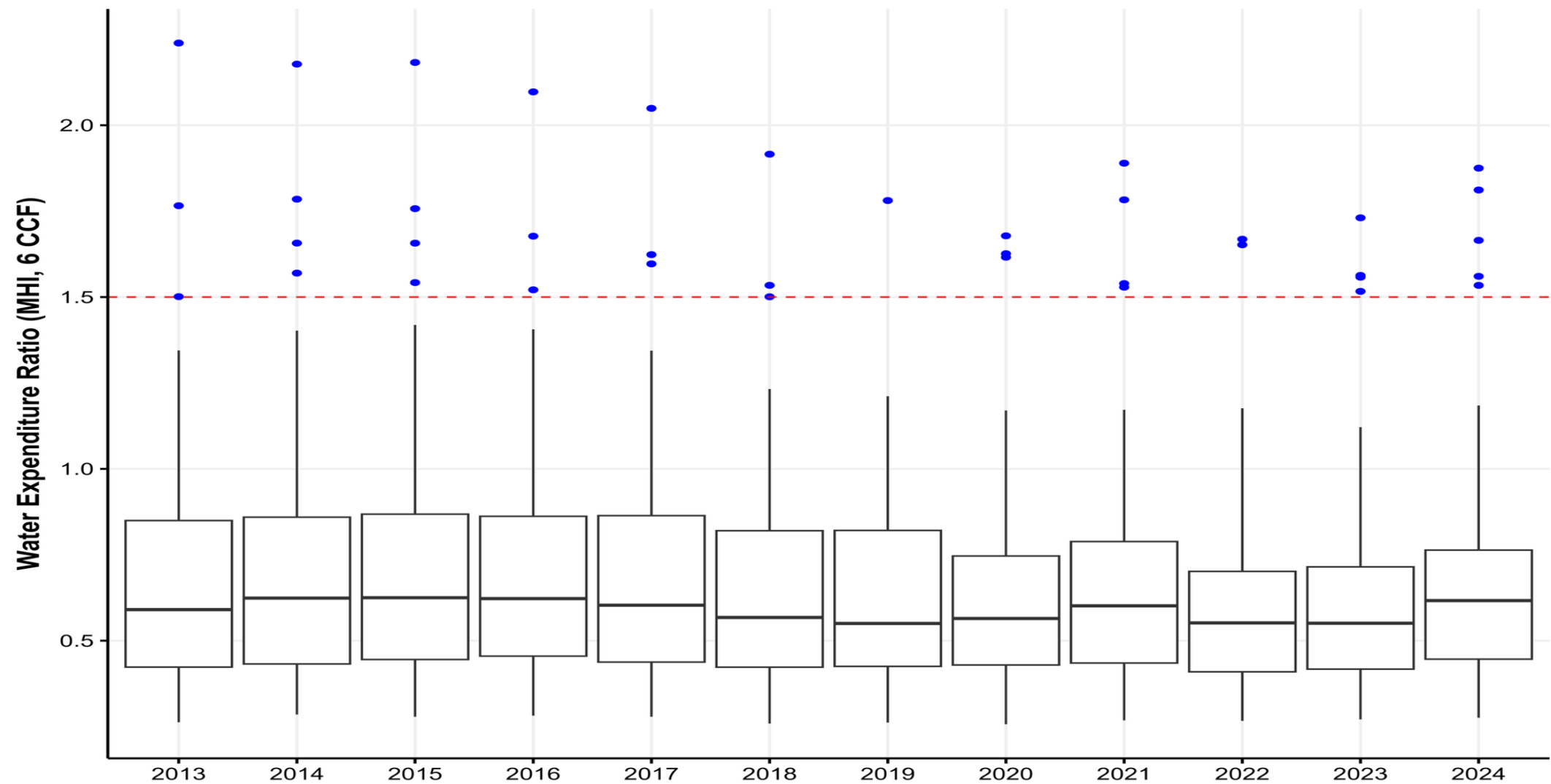
•Rate of increases in water expenditures & income relatively similar

=> WER relatively constant

•WER (6 CCF) significantly < SWRCB 1.5% threshold (assuming MHI)

Year	Water Expenditure (\$/6 CCF)	MHI (\$/month)	WER	Inflation rate (%)
2013	45.43	7,585	0.74	-
2014	42.61	7,529	0.69	1.62
2015	42.76	7,595	0.69	0.12
2016	45.28	7,743	0.72	1.26
2017	46.43	7,929	0.71	2.13
2018	46.52	8,138	0.70	2.44
2019	48.75	8,382	0.70	1.81
2020	49.97	8,586	0.70	1.23
2021	50.02	8,701	0.69	4.70
2022	48.16	8,789	0.65	8.00
2023	48.96	8,857	0.65	4.12
2024	54.75	8,600	0.76	2.95

WER Over Time: Agencies Above SWRCB 1.5% Threshold (MHI)



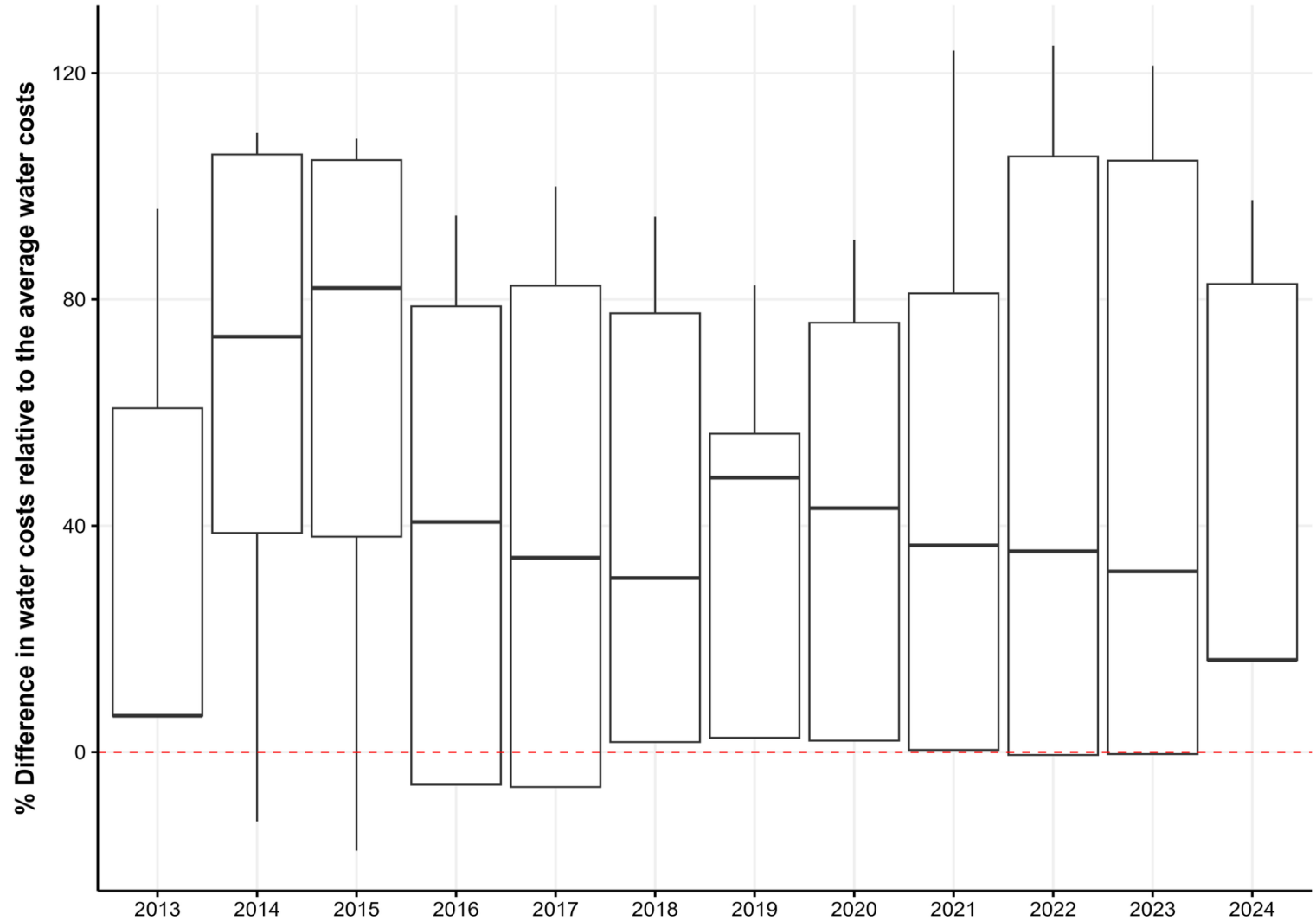
Takeaway : < 4% of agencies have WER > 1.5% threshold (assuming MHI)

What Causes WERs > 1.5%: Costs or Income?

Takeaway

Expenditures are partially responsible....

- Average Expenditures for WER < 1.5% = \$50.84
- Average Expenditures for WER > 1.5% = \$88.41

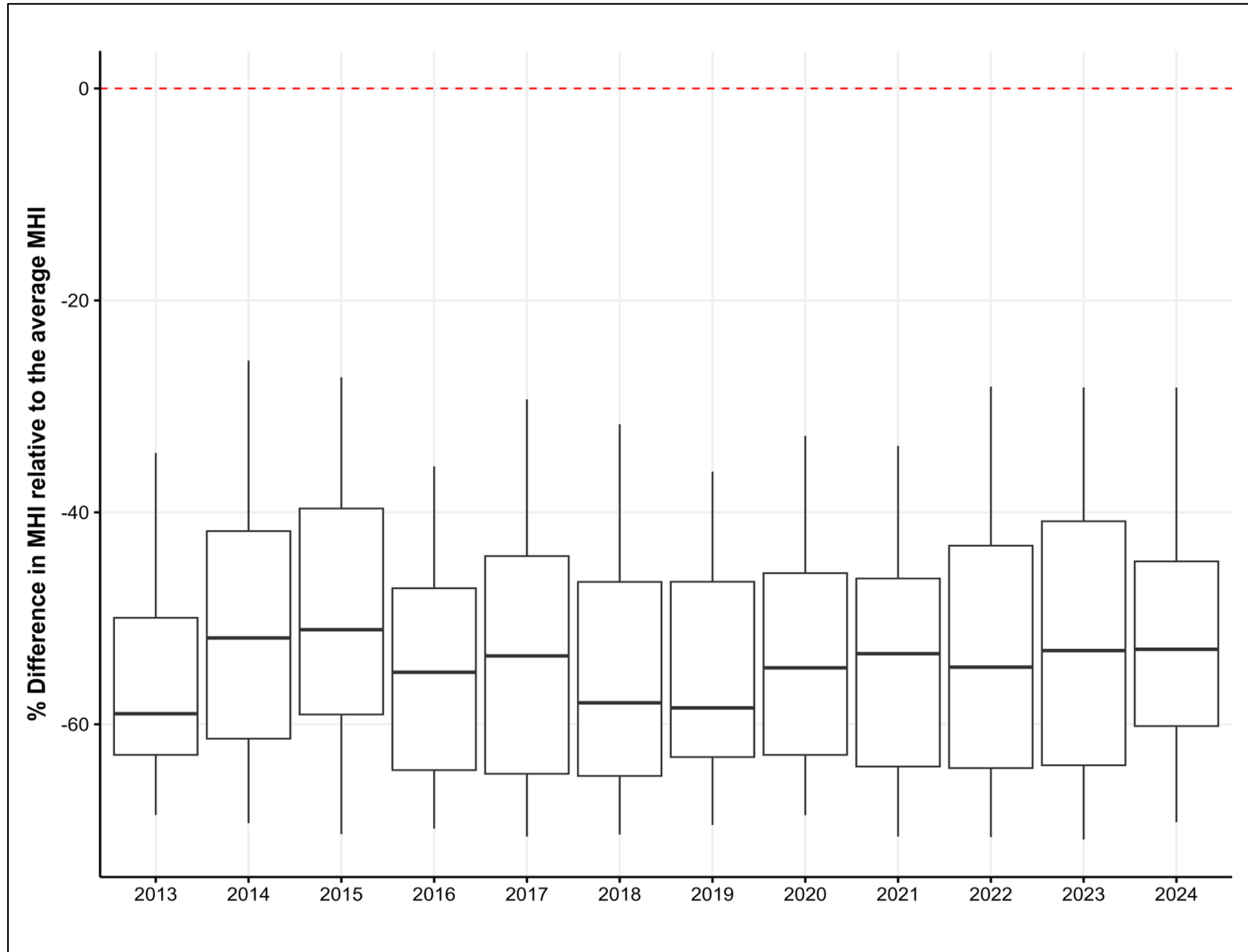


What Causes WERs > 1.5%: Costs or Income?

Takeaway

Income is significantly responsible....

- Average MHI for WER<1.5%
= \$9,289
- Average MHI for WER>1.5%
= \$5,152



Affordability for Lower-Income Households

(20th Percentile Income, 6 CCF Monthly Use, 2024 Dollars)

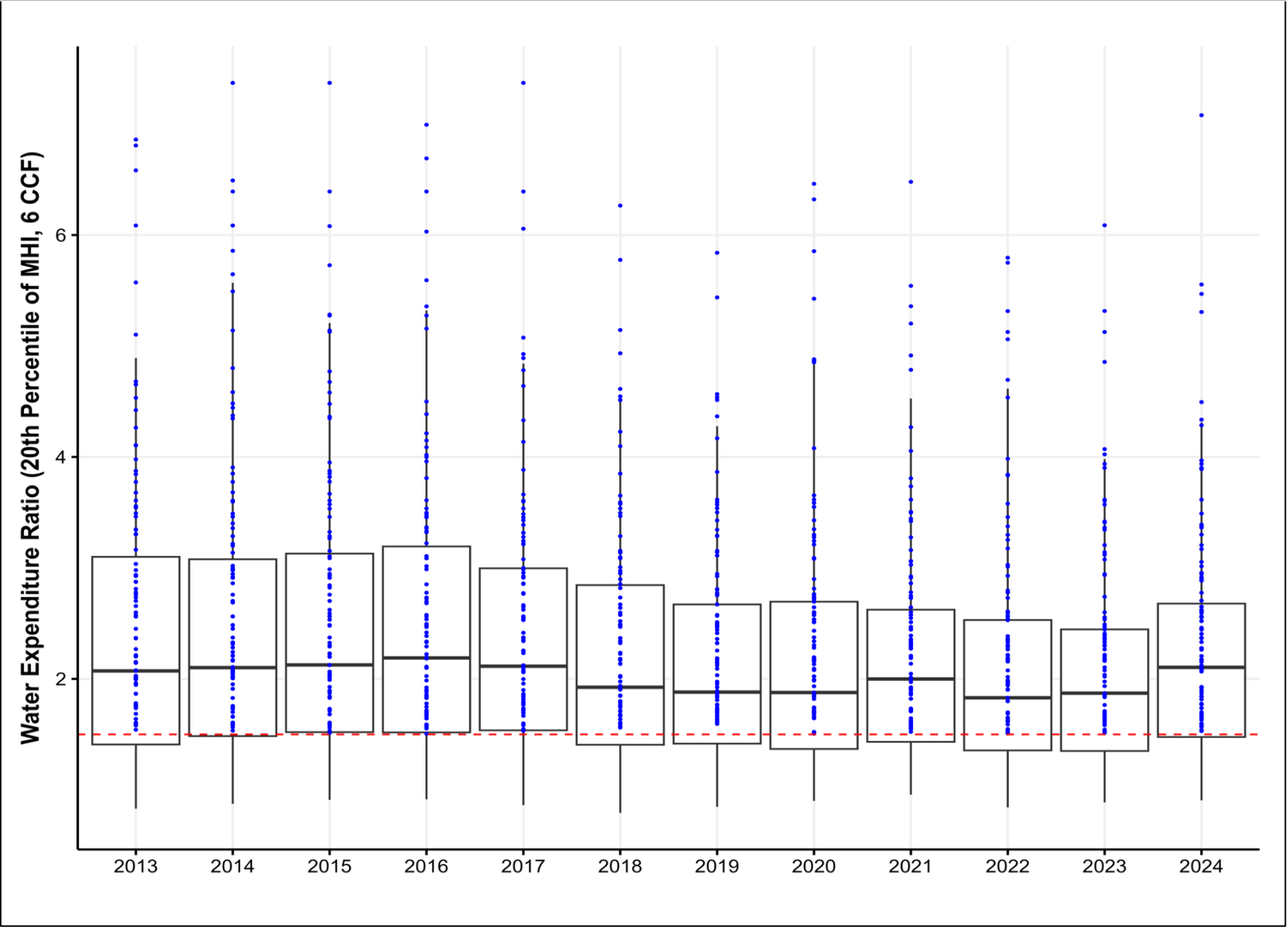
Year	Water Cost (\$)	20 th Income (\$/month)	MHI (\$/month)	WER 20 th	WER 50 th
2013	45.43	2,347	7,585	2.84	0.74
2014	42.61	2,311	7,529	2.63	0.69
2015	42.76	2,324	7,595	2.62	0.69
2016	45.28	2,382	7,743	2.73	0.72
2017	46.43	2,441	7,929	2.70	0.71
2018	46.52	2,522	8,138	2.62	0.70
2019	48.75	2,607	8,382	2.63	0.70
2020	49.97	2,675	8,586	2.65	0.70
2021	50.02	2,714	8,701	2.58	0.69
2022	48.16	2,712	8,789	2.47	0.65
2023	48.96	2,729	8,857	2.50	0.65
2024	54.75	2,649	8,600	2.95	0.76

Observation: Lower-income households generally have WERs > 1.5% threshold

WER Over Time: Agencies Above SWRCB 1.5% Threshold (20th)

Takeaway

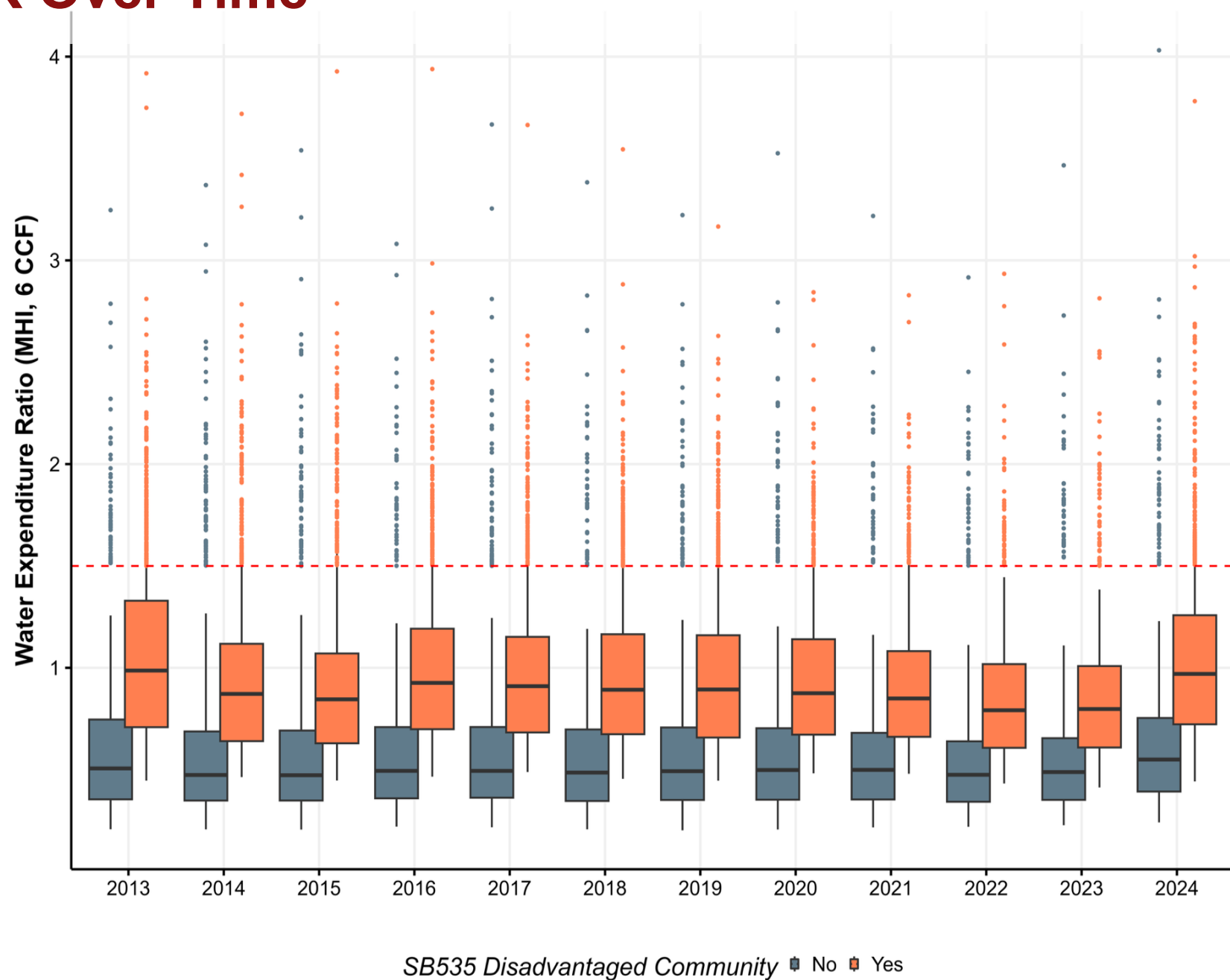
More than 60% of agencies have WERs > 1.5% threshold for lower-income households



DAC vs. Non-DAC WER Over Time

Takeaway

- DAC WER ~ 1%
- 2x non-DAC
 - On average, less than 1.5% threshold



Total Households in MWD Service Area w/ WER > 1.5% Threshold

Year	Total number of Households with WER>1.5%	Share from total households served
2013	812,097	5.42
2014	839,415	5.57
2015	845,104	5.57
2016	810,257	5.38
2017	776,086	5.10
2018	733,180	4.79
2019	707,891	4.60
2020	548,213	4.51
2021	557,291	4.51
2022	550,025	4.42
2023	550,293	4.40
2024	550,293	4.40

Observation: Total # of HHs with WER > 1.5% has decreased over time (5.4% -> 4.4%)

Does WER Vary by Rate Structure?

Takeaway

Budget-based rates are associated with the lowest WERs / Tiered highest...

...but could be other confounding factors driving that association

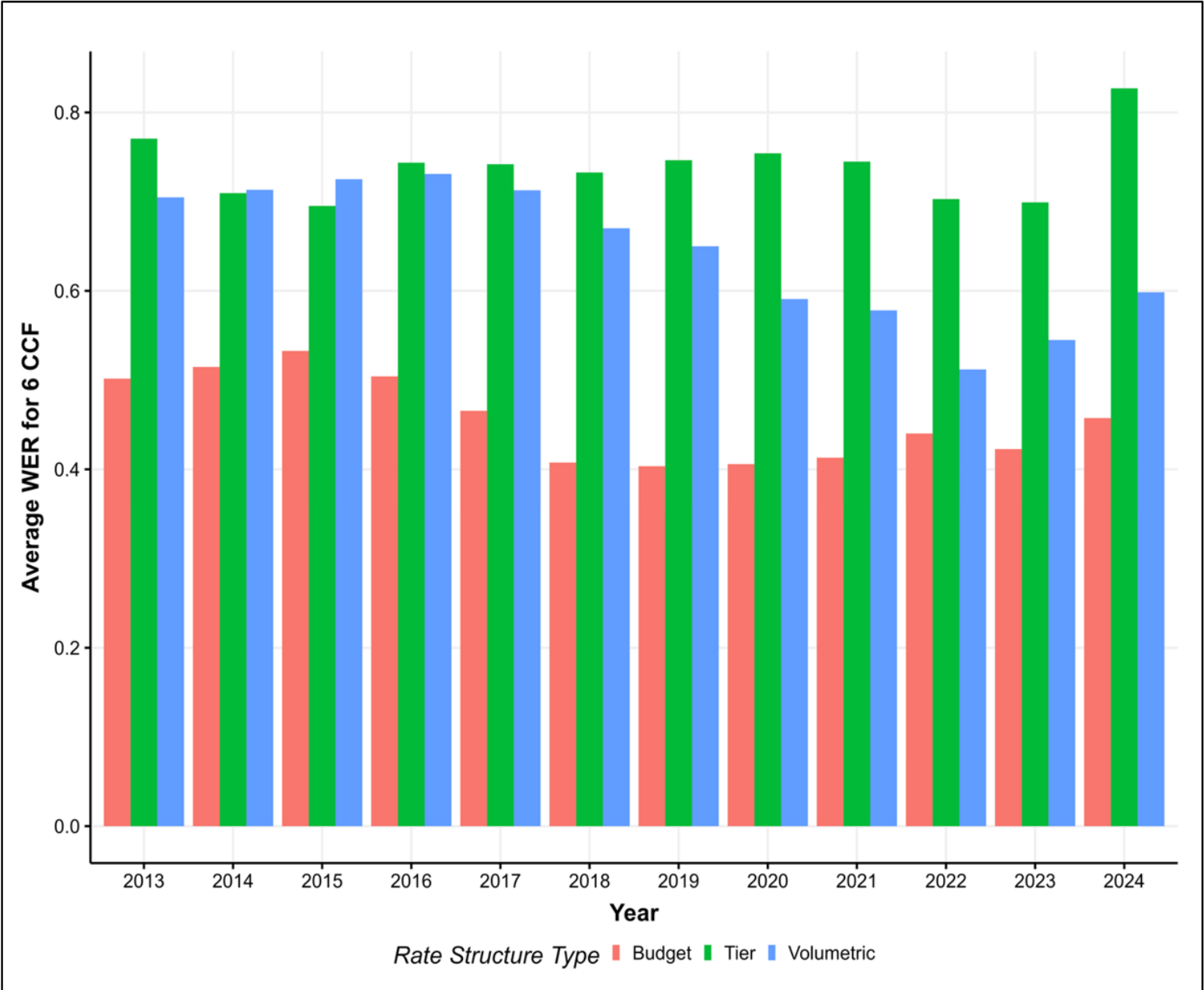
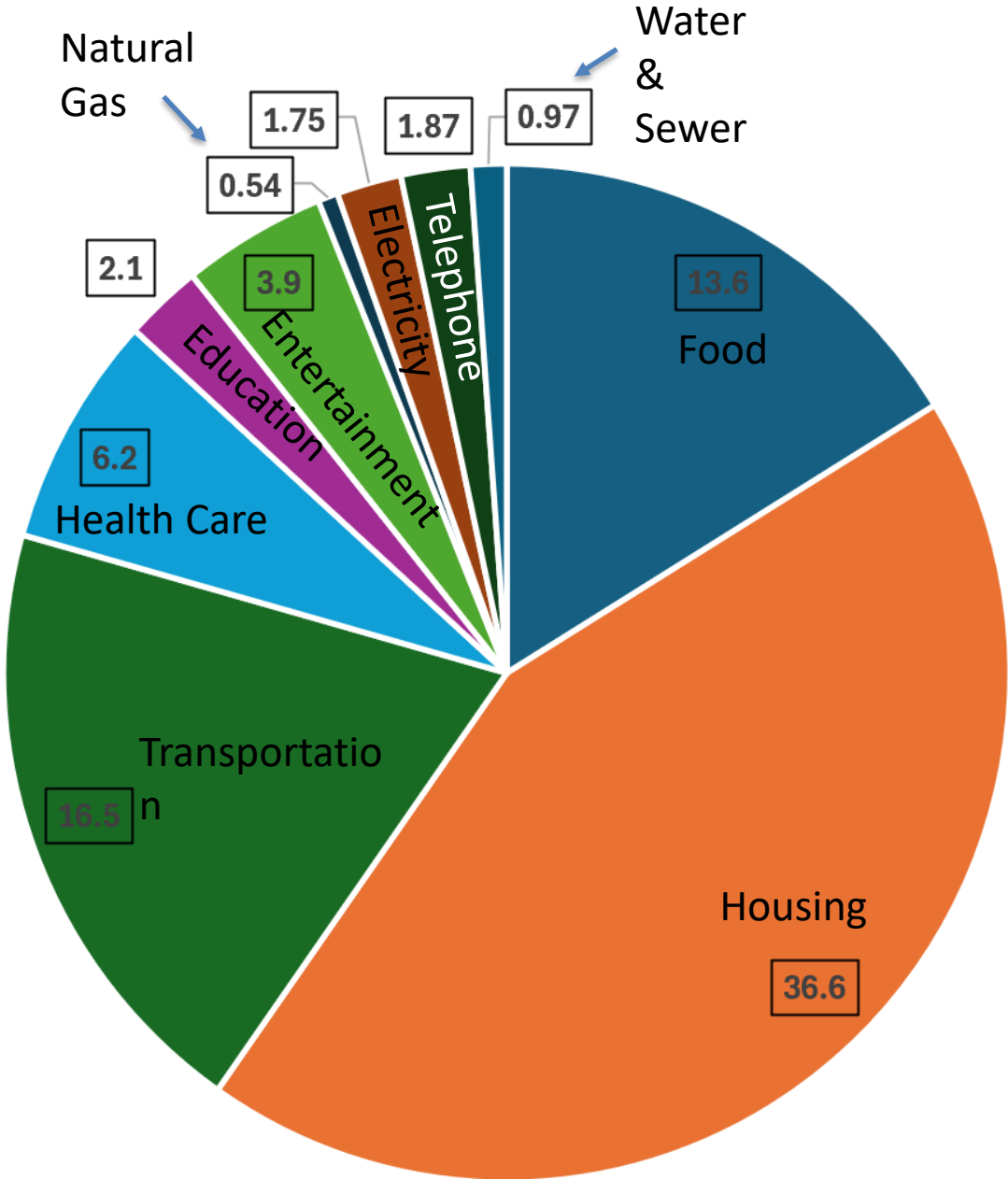


Figure 2-10. Average Water Expenditure Ratio (6 CCF) in MWD service area (2013–2024) by

Drivers of Higher WERs?

	(1)	(2)	
Rate Structure (base: Budget)			
Tier	0.226***	0.230***	Budget-based are associated w/ lower WERs relative to other rate structures
	(0.004)	(0.004)	
Volumetric	0.112***	0.088***	
	(0.005)	(0.005)	
Wastewater	-0.051***	-0.055***	Coupled systems have a negative association w/ WERs
	(0.004)	(0.004)	
# Rate Blocks	-0.019***	-0.022***	# of rate blocks are negatively associated with WERs
	(0.001)	(0.001)	
Percent Rental	0.008***	0.008***	Tracts/districts w/ more renters are associated with higher WERs
	(0.0001)	(0.0001)	
Population Served (base: <=10,000)			
10,001-100,000		-0.401***	More populated districts tend to have lower WERs
		(0.012)	
>100,000		-0.435***	
		(0.012)	
Observations	99,895	99,895	
YEAR FES	YES	YES	

Water vs. Other Expenditures



Service	% of Income
Housing	36.6
Transportation	16.5
Food	13.6
Health Care	6.2
Entertainment	3.9
Education	2.1
Telephone	1.87
Electricity	1.75
Water Sewer (West Region)	0.97
Natural Gas	0.54
WSS 6 CCF (MWD Region)	0.65

Los Angeles MSA (2023): Housing, Food, Transportation, Health Care, Education, Entertainment

West Region (2023): Natural Gas, Electricity, Telephone, Water&Sewer

The Full Circle: Burden, Affordability, Policy Response, and Payment Outcomes



This work connects who faces affordability stress, which policy tools improve outcomes, and what that means for household and utility resilience.

Role of AMI on Water Use and Water Use & Water Expenditures

of Agencies: Four agencies

Time Period: varies by agency

Scale: household-level analysis

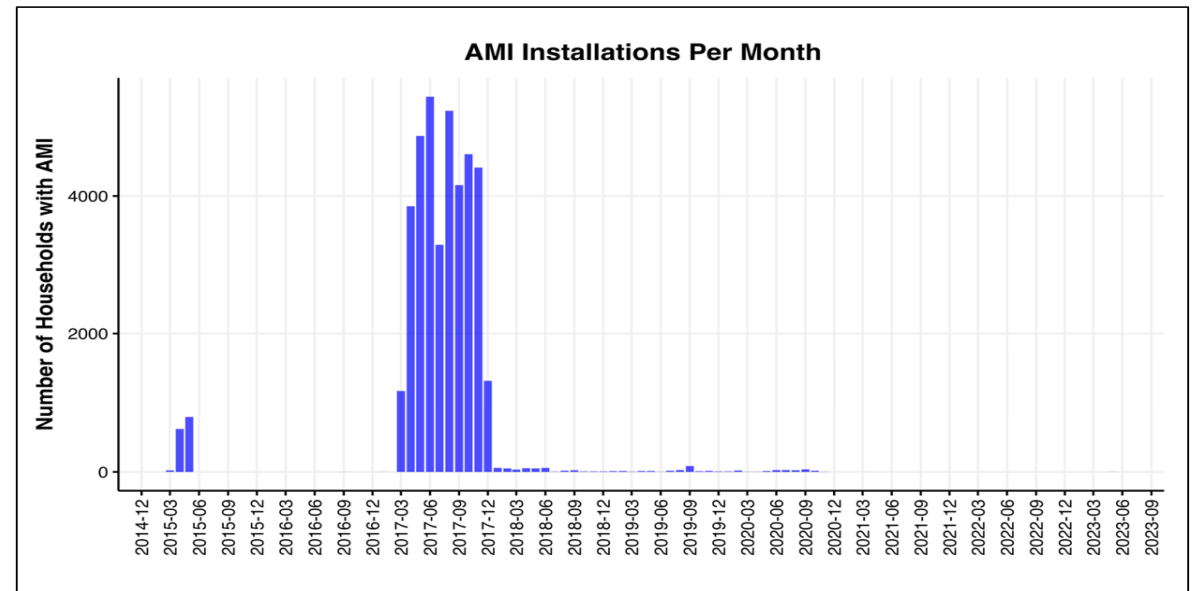
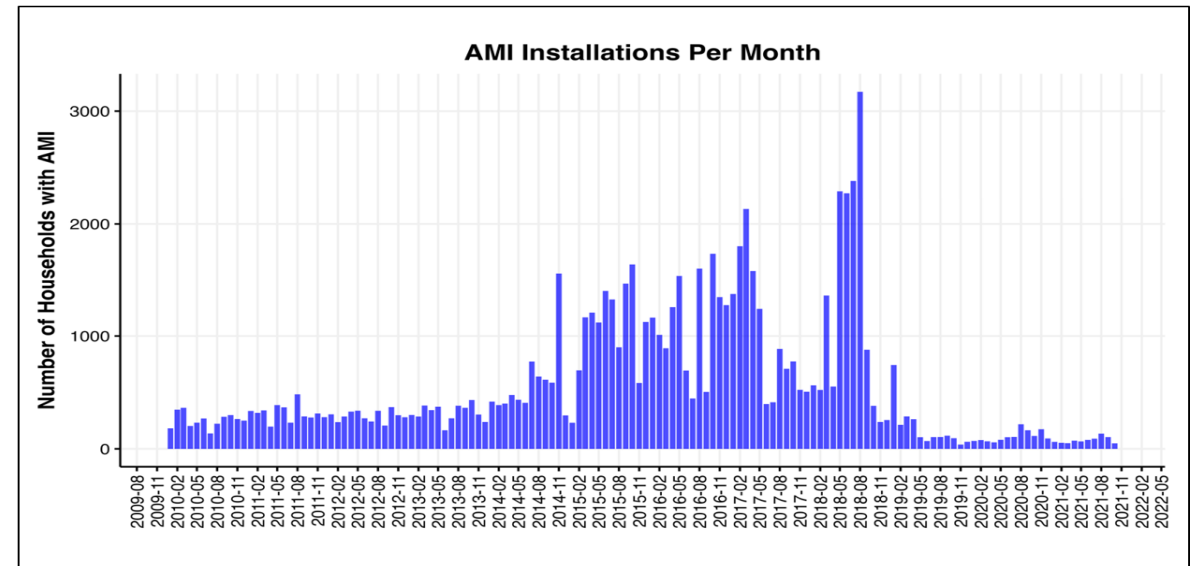
Approach: Two approaches

- Event study
- Diff-in-Diff Fixed Effects

Data: agencies, US Census

- Household-level: water use, bills, lat/long, and AMI installation date
- Census data: MHI

Example of 2 Agencies AMI Installation Time Profile



Impact of AMI

Generally: ~ 1-2% decrease in water use and <1% decrease in water bill (A, C, & D)

Agency B is different: Two factors

- LIRA program customers must register for the AMI portal (receive messaging, awareness of the program)
- Customers who register for online bills are automatically registered for the AMI portal
- Engagement

Different stages of rollout/development
=> differences in outcomes

Log Water Use Water Bill (\$)

	(1)	(2)
Agency A	1.3%	0.82
Agency B	11.1%	31.05
Agency C	2.3%	0.13
Agency D	1.6%	0.70

RARE Program: Data and Research Design

- Setting: ELSINORE VALLEY Municipal Water District single-family residential customers
- Scale: more than 40,000 SFR households in the service area
- Income variation is substantial across census block groups: Median household income ranges from about \$29,070 to \$165,481
- About 17% of SFR customers receive a first past-due notice in a typical month

Research design

Compare RARE participants to non-participants and matched comparison groups

Main outcomes: water use, water bill, delinquency notices, unpaid balances, and affordability metrics

Goal: test whether customer assistance improves affordability and payment behavior, not just bills.

Estimated Impacts of RARE Participation

~3%

**lower monthly
water use**

~\$2/mo

**lower bill
(excluding
credits)**

1-3%

**fewer
delinquency
notices**

~15%

**lower
unpaid balances**

RARE participation appears to improve both household affordability and payment outcomes.

Summary: From Affordability Burden to Policy Response

Affordability burden

Median-income WER for 6 CCF is generally below the 1.5% threshold.

Lower-income WER is generally above the threshold.

Burden varies by rate structure, income, renters, and agency size.

Policy responses

AMI is associated with modest reductions in use and bills.

Conservation programs can help lower the long-run household burden.

Assistance programs can reduce delinquency and unpaid balances.

Utility resilience

Customer engagement and program design shape impacts.

Payment outcomes link household affordability to agency stability.

More household-level evidence is needed across agencies.

Main message

Water affordability is not only about measuring burden; it is about identifying where pressure is greatest and evaluating which tools improve outcomes for households and utilities.

Affordability at the System Level and the Impact on the Cost of Delivering Water

May 7, 2026

Andrea Abergel, Director of Water



Affordability Definitions



- Water System Affordability
 - Financial and other constraints on the water utility

- Household Affordability
 - Can a household maintain access to essential water service without undue financial hardship?
 - Avoiding service disconnections

Drivers of System Affordability

The commonality in these
drivers is that they are
out of the system's control





New treatment standards (regulatory compliance) and emerging mandates

Infrastructure renewal and maintenance



Climate Volatility





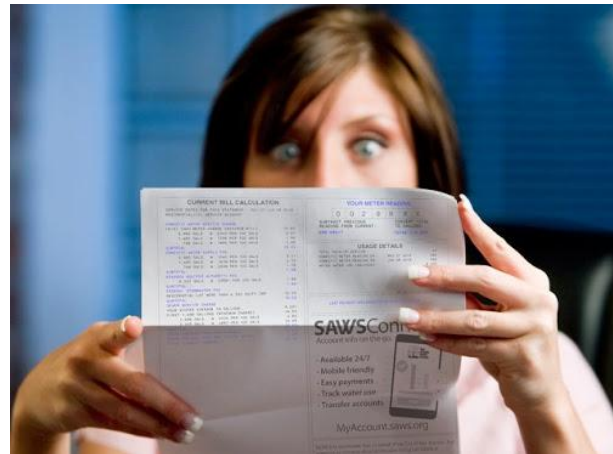
Macroeconomic pressures such as inflation, tariffs, construction cost escalation, labor constraints, energy price volatility, and higher borrowing costs

Declining State and Federal capital support



Drivers of system affordability can lead to household affordability constraints

- These drivers can raise costs for delivering water, which raises customer rates or results in deferred maintenance
- Household affordability is the downward result of these drivers



Household Affordability

- Local Water Rate Assistance Programs - Prop. 218 essentially prohibits public water systems from funding low-income customer assistance programs through customer rates.
- No external funding available
 - Exceptions are temporary COVID-era programs: No federally-funded water assistance programs (Except COVID-era LIHWAP – temporary program]
 - No state-funded water assistance program (Except for COVID-era CWWAPP)

How can we address system affordability?

- Sustained state and federal funding for infrastructure improvements
- Comprehensive understanding of the financial impacts of stacked regulatory and legislative mandates



Contact Us

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Perspectives on Water Affordability

ACWA Conference - Spring 2026

Sean Maguire, State Water Board Member

May 7, 2026



State Water Resources Control Board

State Water Board's Drinking Water Goals

- Fulfill state mandate for the Human Right to Water
- Prioritize assistance to water systems that are out of compliance the longest
- Consider water system need in how to best invest/leverage limited public funds (bond funds, SRF, etc.)
- Establish drinking water requirements/standards to ensure protection of public health and water system resiliency

Water Affordability Drivers

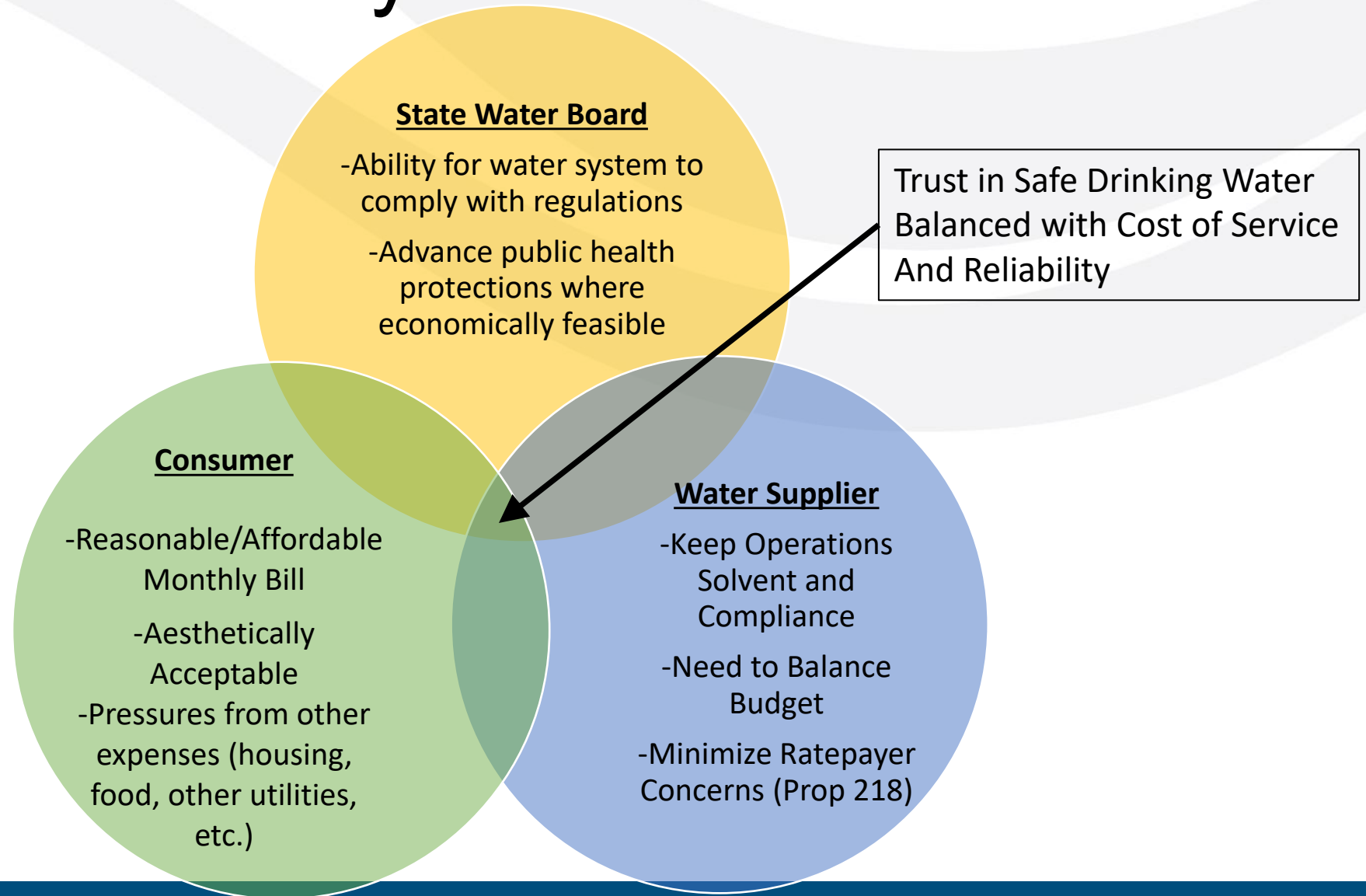
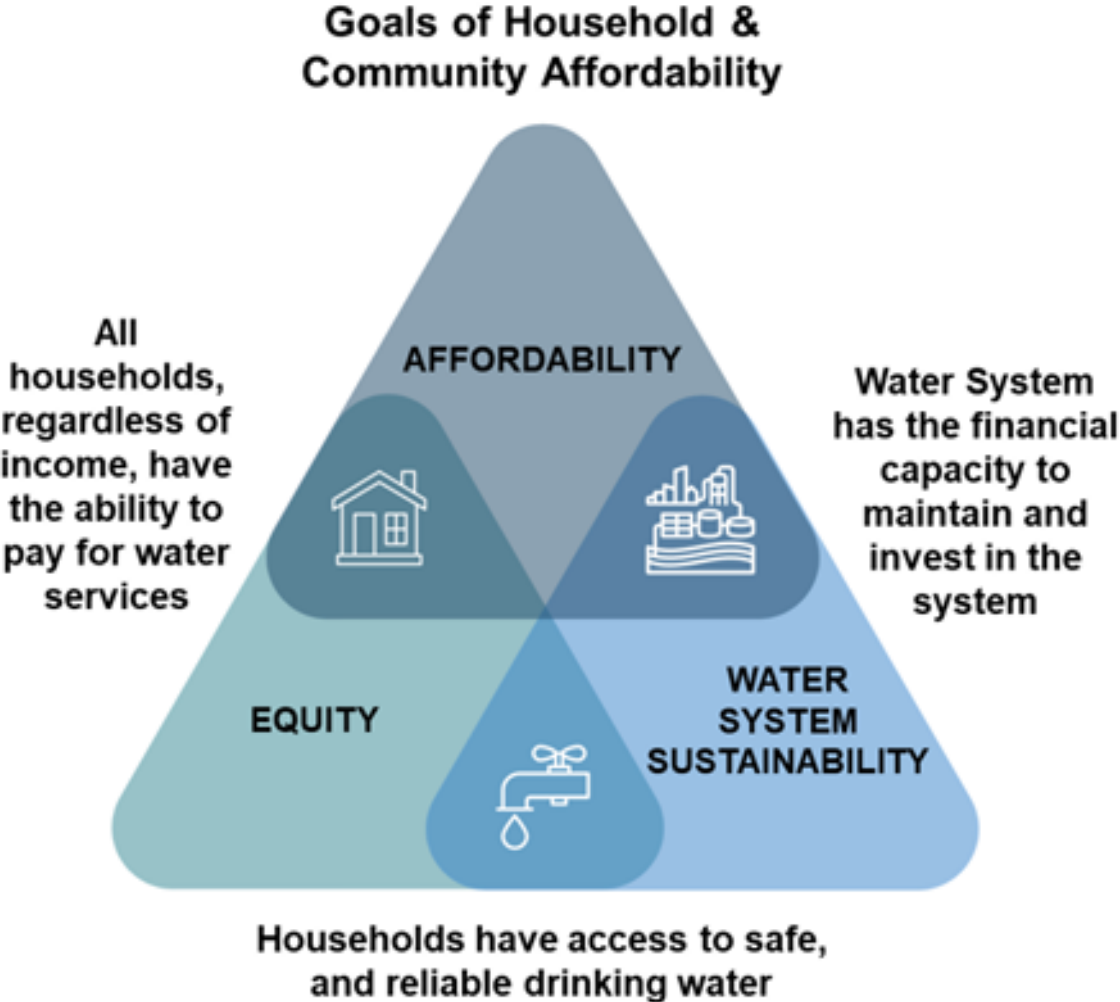


Figure 41: The Relationship Between Affordability, Equity and Water System Sustainability



Coming Together to Achieve Safe and Affordable Drinking Water

1. Water Supplier Projects and Operations
2. State and Federal Funding (SRF Loans, and SAFER SB 200, Prop 4)
3. Regulated Community programs (CV-SALTS, SGMA, etc.)
4. Partnerships

How State Water Board Funding is Invested in Communities

SAFER Program **Funding** Support & Services



Long-Term Solution
Planning



Construction
Funding



Emergency &
Interim Assistance



Water System
Managerial Support

Ongoing and Future Needs

- 2025 Drinking Water Needs Assessment projection: \$5.5 billion
- Currently \$1.3 billion in projects seeking funding
- Focus on small/medium economically disadvantaged communities
- Acknowledge larger water systems also have major infrastructure/water supply needs that add to affordability pressures

Challenges to Success

- Cost drivers/inflationary pressures
- Climate change/supply reliability
- Emerging contaminants/revised MCL's
- Risks of reduced public funding sources
 - SB 200 – loss of general fund backstop and changes to GGRF prioritization
 - Drinking Water SRF – base reductions and federal earmarks
 - Time limited nature of bonds (Prop 4, etc.)
- Eroded trust in the tap (bottled water dynamic)



Opportunities to Achieve and Maintain Affordable Water

- Subsidized loans (SRF) to keep borrowing costs low for larger systems
- Assisting communities with a high-cost burden where possible
- Support/incentivize consolidations to reduce overall # of small systems and improve resiliency.
- Thoughtful, data-driven regulatory decision making to balance cost/benefit of actions
- Opening doors to innovation and wise investment of public funds

Three thick, light gray wavy lines that sweep across the top half of the slide, creating a sense of movement and flow.

Thank You!



Human Right to Affordable Water

Michael Claiborne, Directing Attorney





Recognition of Human Right to Water & Environmental Justice



Access to Drinking Water is a Codified Human Right in California

Water Code 106.3 (AB 685,
2012)

“It is hereby declared to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.”



Environmental Justice

Health and Safety Code, Section 116765.

The Legislature finds and declares all of the following:

(a) Every Californian should enjoy the same degree of protection from environmental and health hazards. Every community should be a healthy environment in which to live, work, play, and learn.

(b) No single group of people should bear a disproportionate share of the negative environmental consequences and adverse health impacts arising from industrial, governmental, or commercial operations or policies.

...

(i) Established state environmental justice law and policies are only effective insofar as they result in true parity.

(j) It is the intent of the Legislature that the State of California bring true environmental justice to our state and begin to address the continuing disproportionate environmental burdens in the state by creating a fund to provide safe drinking water in every California community, for every Californian.

Health and Safety Code, Section 116682(1).

“The state board may prioritize consolidation of an at-risk water system that has historically been overburdened by pollution and industrial development or faced other environmental justice hurdles.”



More Than 800,000 Californians Lack Access
To Safe Drinking Water



Barriers to the Human Right to Water

- Contamination can be naturally occurring (see, e.g., arsenic, uranium), primarily caused by human activity (see, e.g., nitrate, 1,2,3 TCP, PFAS/PFOA), or both (see hexavalent chromium). For those caused by human activity, regulations on discharges to groundwater are commonly inadequate.
- Falling groundwater levels due to overpumping groundwater resources has caused ~4,300 of domestic wells to go dry. See [DWR California Groundwater Live](#).
- While programs to support households reliant on domestic wells have improved in recent years (SB 200 (2019), SB 403 (2023), CV SALTS (2019), SB 804 (2025)), they are not generally regulated and testing is not required.
- Political will to consolidate water systems and extend water service remains a challenge at the local level.



Disproportionate Impact

Unsafe and unaffordable drinking water are statewide problems.

But, low-income communities of color are more impacted by:

1. **Nitrate contamination.** Balazs et al., “Social Disparities in Nitrate Contaminated Drinking Water in California’s San Joaquin Valley,” *Environmental Health Perspectives*, 19:9 (September 2011), <https://ehp.niehs.nih.gov/doi/full/10.1289/ehp.1002878>
2. **Arsenic contamination.** Balazs et al., “Environmental Justice Implications of Arsenic Contamination in California’s San Joaquin Valley,” *Environmental Health Perspectives*, 11:84 (November 2012), <https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-11-84>
3. **Unaffordable water bills.** Pierce et al., “Appendix: COVID-19 Impact on Household Water System Debt at Zip Code Level” (March 2021), <https://innovation.luskin.ucla.edu/wp-content/uploads/2021/03/COVID-19-Impact-on-Household-Water-System-Debt-at-Zip-Code-Level.pdf>

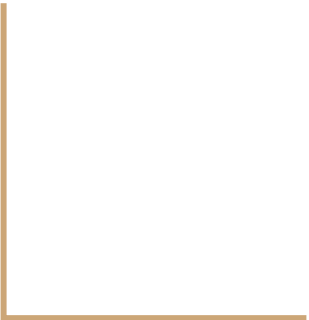
Community Leadership

Efforts to establish and improve programs drinking water access and affordability have been, and remain, led by impacted communities.





Need For Water Low-Income Rate Assistance (WLIRA)



Water Is Increasingly Unaffordable

- Water and sewer rates continue to rise far faster than the rate of inflation.
- Water rates rose 45% from 2007 to 2015 than in 2007 ([State Water Board AB 401 Report](#)).
- A recent [trade article](#) found that water and sewer bills for a typical U.S. household have increased 24% in the past 5 years.
- 34% of California households — roughly 13 million people — earn less than 200% of the federal poverty level (roughly \$50,000 per family).
- There are over 5 million low-income Californians (approximately 1.7 million households) making less than 80% of statewide median household income who directly pay a water bill.
- Households that fall behind on water bills are at risk of having their water shut off.

Cantua Creek/El Porvenir



Limited Reach of Affordability Programs

- Class A Investor Owned Utilities are required to offer low-income rate assistance to water customers.
- Publicly-governed water systems generally do not offer low-income rate assistance programs or, if they do, have very low enrollment rates and/or offer limited benefits.
- This is because: (a) Proposition 218 limits the ability to use ratepayer funds to subsidize rates for low-income customers; (b) non-ratepayer funds are often limited, particularly for special districts (see, e.g., cell tower leases); and (c) there is no requirement that public systems provide low-income rate assistance.

Proposition 218 Water Affordability

Where does Proposition 218 fit in?

- Proposition 218 prohibits a water system from charging ratepayers more than the proportional cost of delivering the service.
- This means that publicly-owned water systems cannot generally charge higher-income customers more to generate revenue needed to charge low-income households less.

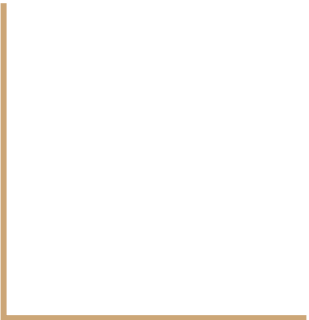
Litigation Challenging LADWP Affordability Program

“City may have compelling policy reasons to subsidize water rates paid by those who cannot afford higher rates, but it cannot raise revenues to do so by charging other ratepayers more than the cost of providing water service to their parcel, or by using the increased revenue for a purpose other than providing water service to the ratepayer.”

1	SUPERIOR COURT OF THE STATE OF CALIFORNIA		FILED
2	FOR THE COUNTY OF LOS ANGELES		Superior Court of California County of Los Angeles
3			MAR 29 2022
4			Sherri R. Carter, Executive Officer/Clerk
5			By <u>Randy D. DiIambattista</u> Deputy
6			J.N. DiIambattista
7	STEPHEN AND MELINDA DREHER	Case No.: 19STCV07272	
8	Plaintiffs,		
9	vs	DECISION ON SUBMITTED MATTER	
10	CITY OF LOS ANGELES DEPARTMENT OF	PETITION FOR WRIT OF MANDATE	
11	WATER AND POWER		
12	Defendant		
13	In this writ action, Plaintiffs and Petitioners Stephen Dreher and Melinda Dreher ("Petitioners")		
14	contend that Defendant and Respondent City of Los Angeles Department of Water and Power		
15	("Respondent" or "LADWP"), a municipal water and power utility that is a department of the City of Los		
16	Angeles ("City"), failed to comply with mandatory duties in Article XIII D of the California Constitution when		
17	it set new water rates in 2016. Petitioners request a writ of mandate ordering City to comply with Article		
18	XIII D and to reimburse Petitioners and other ratepayers for all fees and charges unlawfully collected.		
19	Respondent opposes. The court heard oral argument on December 7, 2021 and January 18, 2022 after		
20	which it took the matter under submission. The court now issues its ruling.		
21			



Current and Past Efforts To Establish WLIRA



Prior Efforts to Establish and Fund WLIRA

1. **SB 222 (Dodd, 2022):** The bill would have established a framework for a statewide low-income rate assistance program for water and sewer bills, administered by the State Water Resources Control Board. The bill would become effective upon appropriation of funding, but no funding source was identified. Governor Newsom vetoed the bill for lack of identified funding.
2. **SB 1215 (Durazo, 2024):** The bill would have established a framework for statewide low-income rate assistance program for water and sewer bills, administered by the State Water Resources Control Board. Funding was generated at the local level from “opt out” voluntary contributions. The bill was held on suspense in the Assembly.
3. **SB 350 (Durazo, 2025):** The bill would have established a framework for statewide low-income rate assistance program for water and sewer bills, administered by the State Water Resources Control Board. No funding source was identified, but administration was simplified significantly through negotiations with the water sector. The bill was held on suspense in the Senate.

What's Next:

- **SB 1125 (Menjivar, 2026)**
 - Sponsors: Leadership Counsel for Justice & Accountability, Community Water Center, Clean Water Action
 - Current language codifies the annual drinking water needs assessment.
 - Senator Menjivar's goal is to amend the bill this session to add the policies needed for a statewide low-income rate assistance program, using language carefully negotiated with CMUA and other stakeholders in prior legislative efforts.
- **AB 2739 (Soria, 2026)**
 - Drinking water advocates are not leading this effort, but hope to work closely with the sponsors in moving it forward.
 - Would establish the Community Water Affordability Assistance Fund, intended to fund both system-level and household-level affordability.
- **SAFER Backfill**

Thank You!

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Setting the Stage

Today:

- Academic perspective/information

- Policy proposals/case studies

- Studies/water affordability challenge

- Debate: Reliability vs Affordability

- Value of Water

Do we change the narrative?

Questions and Answers